1. A polishing apparatus, comprising:

a support system for movably supporting a polishing pad;

a drive system for moving the polishing pad in first and second directions; and

a conditioning device for applying different conditioning treatments to different portions of the surface of the polishing pad, and wherein said conditioning device includes separately driven roller segments.

2. The polishing apparatus of claim 1, wherein said support system includes a table and guide rollers.

3. The polishing apparatus of claim 2, further comprising a carrier for pressing a semiconductor substrate against the polishing pad and for moving the substrate relative to the pad.

4. The polishing apparatus of claim 3, wherein the second direction is opposite to the first direction.

5. The polishing apparatus of claim 4, wherein said drive system includes a take-up roller and a supply roller.

6. The polishing apparatus of claim 1, wherein said roller segments are aligned on a common axis of rotation, and wherein said axis of rotation is angled with respect to the lateral dimension of the polishing pad.

7. The polishing apparatus of claim 1, wherein said conditioning device includes planetary gears meshed with sun gears, said planetary gears and said sun gears being located in said roller segments.

8. The polishing apparatus of claim 7, further comprising a common drive shaft for rotating said sun gears.

9. The polishing apparatus of claim 1, wherein said conditioning device includes concentric drive shafts connected to said roller segments.

10. The polishing apparatus of claim 9, further comprising gears for rotating said concentric drive shafts, said gears being located outside said roller segments.

11. The polishing apparatus of claim 1, wherein said conditioning device includes electric motors for independently rotating said roller segments, said motors being located in said roller segments.

12. The polishing apparatus of claim 1, wherein said conditioning device includes a non-cylindrical roller, said roller having different radial dimensions at different locations along the length of said roller.

13. The polishing apparatus of claim 12, wherein said conditioning device includes first and second frustoconical rollers for conditioning the surface of the pad.

14. The polishing apparatus of claim 13, wherein the large ends of said frustoconical rollers are located next to each other.

15. A chemical-mechanical polishing apparatus, comprising:

a polishing web;

rollers for moving said web in first and second directions, the second direction being opposite to the first direction;

a carrier for pressing a work piece against said web and for rotating the work piece with respect to said web; and

a conditioning device for applying different conditioning treatments to different portions of said web.

16. The polishing apparatus of claim 15, further comprising a motor and a take-up roller for moving said web in said first direction.

17. The polishing apparatus of claim 16, wherein said conditioning device includes axially aligned roller segments.

18. The polishing apparatus of claim 17, further comprising a mechanism for rotating said roller segments simultaneously at different speeds and in different directions.

19. The polishing apparatus of claim 15, wherein said conditioning device includes a non-cylindrical roller.

20. The polishing apparatus of claim 15, wherein said conditioning device applies different pressures to different portions of said web.

21. The polishing apparatus of claim 20, wherein said conditioning device has inflatable portions.

22. The polishing apparatus of claim 15, further comprising means for adjusting said conditioning device in response to surface characteristics of semiconductor wafers polished by said web.

23. A method of polishing semiconductor work pieces, said method comprising the steps of:

applying slurry to a web-shaped polishing pad;

pressing a first semiconductor work piece against said web-shaped polishing pad, and moving said work piece with respect to said pad;

providing a conditioning device;

providing relative movement in a first direction between said web-shaped polishing pad and said conditioning device;

using said conditioning device to condition a glazed portion of said web-shaped polishing pad, and wherein said conditioning step includes the steps of applying different conditioning treatments to different portions of said glazed portion of said web-shaped polishing pad;

subsequently, providing relative movement in a second direction between said web-shaped polishing pad and said conditioning device; and

pressing a second semiconductor work piece against said web-shaped polishing pad, and moving said second semiconductor work piece with respect to said pad.

24. The polishing method of claim 23, wherein said step of providing relative movement in said first direction includes the step of unwinding said pad from a supply roller.

25. The polishing method of claim 23, wherein said step of providing relative movement in said first direction includes the steps of maintaining said pad in a stationary position and moving said conditioning device over said pad.

26. The polishing method of claim 23, wherein said step of moving said first semiconductor work piece includes the step of simultaneously rotating said first semiconductor work piece about parallel axes.

27. The polishing method of claim 23, wherein said polishing pad includes polyurethane.

28. The polishing method of claim 23, further comprising the steps of measuring surface characteristics of said first semiconductor work piece and performing said conditioning step in response to said surface characteristics.

29. The polishing method of claim 28, further comprising the steps of measuring the surface characteristics of said second semiconductor work piece and subsequently conditioning said pad.

30. A chemical-mechanical polishing method, said method comprising the steps of:

moving a web-shaped polishing pad in first and second directions;

dispensing slurry onto said web-shaped polishing pad;

moving semiconductor devices in contact with said web-shaped polishing pad; and

applying different conditioning treatments to different portions of said web-shaped polishing pad.

31. The method of claim 30, wherein said step of moving said pad includes the step of unwinding said pad from a supply roller.

32. The method of claim 30, wherein said step of applying different conditioning treatments includes the step of rotating portions of a conditioning device at different speeds relative to the surface of said pad.

33. The method of claim 30, wherein said step of applying different conditioning treatments includes the step of applying different pressures to different portions of said pad.

34. The method of claim 30, further comprising the step of measuring the semiconductor devices, and wherein said step of applying said different conditioning treatments occurs subsequent to said measuring step.

35. A conditioning device, comprising:

roller segments for conditioning respective portions of a glazed polishing surface, said segments being rotatable at different speeds relative to said respective surface portions; and

a system for moving said rotatable roller segments relative to said glazed polishing surface.

36. The conditioning device of claim 35, further comprising a drive system for rotating said roller segments at different speeds relative to said respective surface portions.

37. The conditioning device of claim 36, wherein said drive system includes gears located inside said roller segments and a drive shaft connecting said gears.

38. The conditioning device of claim 36, wherein said drive system has gears located outside said roller segments and at least one drive shaft extending through said roller segments, said drive shaft being connected to at least one of said gears.

39. The conditioning device of claim 36, wherein said drive system includes electrical motors located inside said roller segments.

40. The conditioning device of claim 36, wherein said roller segments are coaxially aligned.

41. The conditioning device of claim 36, wherein said moving system is arranged to move said roller segments in a transverse direction relative to a polishing pad.

42. The conditioning device of claim 36, wherein said moving system provides relative movement between said roller segments and a polishing pad.

43. The conditioning device of claim 42, wherein the axes of said roller segments are arranged at an acute angle with respect to the longitudinal direction of the polishing pad.

44. The conditioning device of claim 35, wherein said conditioning device is adjustable in response to measurements of surface characteristics of work pieces.

45. A conditioning device, comprising:

cylindrical roller segments for conditioning respective portions of a glazed polishing surface;

means for rotating said cylindrical roller segments; and

a system for moving said cylindrical roller segments relative to said glazed polishing surface.

46. The conditioning device of claim 45, wherein said moving system moves said roller segments longitudinally with respect to a web-shaped polishing pad.

47. The conditioning device of claim 45, wherein said moving system moves said roller segments laterally with respect to a polishing pad.

48. The conditioning device of claim 45, wherein the exterior surfaces of said roller segments are different to provide different conditioning treatments on different portions of the polishing surface.

49. The conditioning device of claim 45, wherein said conditioning device is adjustable in response to measurements of surface characteristics of work pieces.

50. A conditioning system, comprising:

a support device for supporting a polishing pad;

a rotatable conditioning device for conditioning the surface of the polishing pad; and

an inflatable device for selectively controlling the pressures between portions of said conditioning device and respective portions of the polishing pad.

51. The conditioning system of claim 50, further comprising a flexible low friction bearing material for applying pressure to the polishing pad, the polishing pad being located between said conditioning device and said flexible material.

52. The conditioning system of claim 51, wherein said conditioning device includes a roller.

53. The conditioning system of claim 50, wherein said inflatable device includes an inflatable roller, and wherein the polishing pad is located between said conditioning device and said inflatable roller.

54. The conditioning system of claim 50, further comprising feedback means for adjusting the pressures applied to the polishing pad, wherein said feedback means includes a measurement device for measuring the polishing pad and means for adjusting the conditioning device accordingly.

55. A conditioning apparatus, comprising:

a conditioning device for simultaneously applying different conditioning treatments to the surface of a polishing pad; and

a rotatable support system for providing relative rotation between said conditioning device and the polishing pad.

56. The conditioning apparatus of claim 55, wherein said conditioning device includes roller segments.

57. The conditioning apparatus of claim 55, wherein said conditioning device includes at least one non-cylindrical roller.

58. The conditioning apparatus of claim 55, wherein said conditioning device applies different pressures to different portions of the pad.

59. The conditioning apparatus of claim 55, further comprising a data processor for adjusting said conditioning device.

60. A method of conditioning a polishing pad, said method comprising the steps of:

applying different conditioning treatments simultaneously to the surface of said polishing pad; and

during said step of applying said different conditioning treatments, providing relative rotation between said conditioning device and said polishing pad.

61. The conditioning method of claim 60, wherein said polishing pad is circular.

62. The conditioning method of claim 61, wherein said step of applying said different conditioning treatments includes the step of rotating roller segments at different speeds.

63. The conditioning method of claim 61, wherein said step of applying said different conditioning treatments includes the step of rotating a non-cylindrical roller.

64. The conditioning method of claim 61, wherein said step of applying said different conditioning treatments includes the step of applying different pressures to different portions of said pad.

65. The conditioning method of claim 60, further comprising the steps of obtaining surface characteristics data by measuring a work piece polished by said pad, and processing said data to control a conditioning device.